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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,338	12/28/2001	Sridhar Gollamudi	LUTZ 2 00551	7159

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EXAMINER	
AGHDAM, FRESHTEH N	
ART UNIT	**PAPER NUMBER**
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/033,338	GOLLAMUDI ET AL.	
	Examiner	Art Unit	
	FRESHTEH N. AGHDAM	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 April 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2,4,5,7,10 and 16-20* is/are rejected.

7)☒ Claim(s) *3,6,8,9, and 11-15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed April 9, 2008 have been fully considered but they are not persuasive.

Applicant's Argument(s):

Regarding claim 2, page 3, the applicant argues that the claimed invention is not taught or suggested by Chuang "the first channel condition threshold being based on the first modulation and coding scheme level used in the first data packet transmission".

Regarding the double patenting rejection in view of US 6,915,477, page 4, the applicant argues that claim 2 of the instant application unlike the '477 patent contains the extra limitations of dividing the data packets into categories, adjusting the first channel condition threshold based on the MCS level used in the first data packet transmission that belongs to the first category and when the first data packet belongs to a second category, the first channel condition threshold is adjusted based on the last error detection result.

Examiner's Response:

Regarding the first argument set forth above, the examiner disagrees with the applicant because Chuang teaches the limitation of "the first channel condition threshold being based on the first modulation and coding scheme level used in the first data packet transmission" when n=1 (par. 6-7, 39-41 and 49-50) since, as the applicant pointed out in the response filed April 9, 2008, the SIR0 is the base offered traffic but

the first channel condition threshold is in fact SIR= SIR0+C(ρ), where C(ρ) is related to BLERn when n=1 (n corresponds to the MCS level used for transmission).

Regarding the second argument set forth above, the examiner disagrees with the applicant because as it was stated in the previous office action dated January 9, 2008, **claim 6 of the patent '477 contains all the claimed subject matter of claim 2 of the instant application plus some additional limitation(s)** (emphasis added) of categorizing the data packets. By excluding **the additional limitation(s)** (emphasis added) from claim 6 of the '477 patent the method of adaptive quality control loop of the instant application is obtained, which is simpler, and consequently, the hardware complexity is reduced comparing to the quality control loop method of the '477 patent that includes the step of adjusting the thresholds differently depending on the type of packet.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to

be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2, 4, 10, 11, 15, and 16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 6-7, 9-11, 16, and 17 of U.S. Patent No. 6,915,477. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 6 of the '477 patent includes the limitation of "a first variable step" as compared to the instant application "a first variable size step". However, when the specification is used as a dictionary to learn the meaning of the phrase in the patent see MPEP page section 804, page 800-22. It is clear that the phrase "variable step" is meant to be variable size step see column 7, equations 7-9. Also, claim 6 of the '477 patent includes additional limitation(s) that indicates the channel condition threshold is adjusted based upon a packet category in addition to the error detection results. It would have been obvious to one of ordinary skill in the art to adjust the thresholds differently depending on the type of packet because of the different requirements and tolerances to obtain a more comprehensive quality control loop versus simplifying the quality control loop according to claim 2 of the instant application and reducing the hardware complexity. Claims 6, 7, 9, 10, and 11 of the patent correspond to claims 2, 4, 10, 15, and 16 of the instant application, respectively. Claims 16 and 17 of the patent both correspond to claim 11 of the instant application. Claim 16 states that the threshold is adjusted up if an error is detected (and inherently, the threshold is adjusted down in the opposite situation, i.e. not error is detected). Claim

17 states the threshold is adjusted down if no error is detected (and inherently, the threshold is adjusted up in the opposite situation). Claim 11 explicitly states that the threshold is adjusted up if there is an error and adjusted down if there is

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2, 4, 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Chuang et al (US 2005/0054296).

As to claims 2 and 4, Chuang discloses an adaptive quality control loop for a rate adaptation based on modulation and coding scheme (MCS) levels, the adaptive quality control loop method comprising the steps of: adjusting a first channel condition threshold based on a first error detection result for a first data packet transmission between a transmitter and a receiver using a first variable step size step (Par. 6-7 and 49), wherein the first channel condition threshold is based on a first modulation and coding scheme (MCS) level used in the first data packet transmission, and the first variable step size is determined using a desired MCS error rate (e.g. BLERn) for the first MCS level (Par. 6-7, 41, 43, and 49-50).

As to claim 10, Chuang further discloses determining the first variable size step using a block error rate target criterion and a first data rate associated with the first MCS level (Par. 33-34 and 41).

As to claim 16, Chuang further discloses adjusting a second channel condition threshold based on a second error detection result for a second data packet transmission using a second variable size step, wherein the second channel condition threshold is associated with a second MCS level used in the second data packet transmission (Par. 6-7, 41, 43-44, and 49-50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 7, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chuang et al.

As to claim 7, Chuang teaches all the subject matter claimed above, except for the desired MCS error rate is based on a bit error rate. Chuang discloses that the desired MCS error rate is based on a block error rate. However, one of ordinary skill in the art would clearly recognize that it is well known in the art to estimate level of performance of a communication system using any of the frame, block, or bit error rate.

Therefore, it would have been obvious to one of ordinary skill in the art to employ the bit error rate instead of the block error rate as the quality measurement parameter in order to estimate the level of performance of the system.

As to claim 17, Chuang discloses all the subject matter as recited in claim 2, except for selecting a second MCS level based on an estimation of channel condition between the receiver and transmitter using a table having the adjusted first channel condition threshold. However, one of ordinary skill in the art would recognize that it is well known in the art to store different modulation coding schemes that correspond to different channel condition thresholds in a table and selecting the appropriate MCS level based on the estimate of the channel condition threshold in order to maximize throughput.

As to claims 18, Chuang inherently discloses transmitting a second data packet using the second MCS level.

As to claim 19, Chuang further discloses determining the first variable size step using the first error detection result (BLERn; Par. 41 and 50).

As to claim 20, Chuang a second variable size step using the second error detection result (BLERn; Par. 41 and 50).

Allowable Subject Matter

Claims 3, 6, 8-9, and 11-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRESHTEH N. AGHDAM whose telephone number is (571)272-6037. The examiner can normally be reached on 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Freshteh N Aghdam/

Examiner, Art Unit 2611

/Chieh M Fan/

Supervisory Patent Examiner, Art Unit 2611